

# EATON CORPORATE

Eaton Industries SAS  
NAS users documentation – version 0.4  
Eaton R&D Development Team  
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Revision Number	Date	Brief summary of changes
0.1	10/19/12	Initial draft
0.2	10/25/12	Second draft
0.3	10/26/12	Support comments
0.4	12/27/12	Adding windows comments for netApp

## 1. INTRODUCTION

This document provides some hint and tips on how you can make your Eaton UPS communicate with a range of NAS models in order to have the NAS properly shut-down when the UPS is running out of battery.

## 2. NETAPP – FAS 2200 SERIES

### 2.1. INTRODUCTION

There is no direct Eaton UPS support on these NAS. You can only use a remote UPS controller to shut-down the NAS via SSH when needed (see Appendix I)

### 2.2. PREREQUISITES AND AVAILABILITY

This tip has been tested with DATA ONTAP 8.0.2 firmware version.

First you need to enable automatic SSH login from your UPS controller:

<https://communities.netapp.com/blogs/fitforpurpose/2009/11/27/netapp-storage-system-automation-using-ssh-instead-rsh>

If you are on windows, following these instructions:

- Install Client Services for NFS under Windows. NFS support is one of those optional packages that are available via the Add/Remove Software wizard in the Control Panel.
- To have the right to write on the NFS mounting, add the following keys on the registry
  - Start Registry Editor
  - Locate HKEY\_LOCAL\_MACHINE\SOFTWARE\Microsoft\ClientForNFS\CurrentVersion\Default
  - Create two DWORD values namely AnonymousUid and AnonymousGid
  - Set these values to the UID and GID at 0
  - Restart your Client for NFS service using the Microsoft Services for NFS MMC snap-in
  - `mount -u:root -p:<password> \\<<hostname>\vol\vol0 *`
- Use the puttygen.exe to generate a public/private key in SSH-2 RSA, use the field (Public key for pasting into OpenSSH authorized\_key file:) and copy/paste it in the etc/ssh/root/.ssh/authorized\_keys file.
- Save the private key (netapp\_shutdown.ppk) in a temp folder, this file will use later.
- On the netApp host type the following command:
  - `secureadmin disable all`
  - `secureadmin enable ssh2`
- Test the Connection with the following command (return the date of the NETAPP server):
  - `plink.exe -i netapp_shutdown.ppk root@<netAppHostName> date`

PuTTY files: <http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

### 2.3. HOW TO ENABLE UPS PROTECTION

Once ssh access is OK (see above), you can use this command to shut-down the host:

```
ssh <your NAS IP> halt -t 1
```

### 2.4. REFERENCES

N/A

### 3. HP X1400 G2

#### 3.1. INTRODUCTION

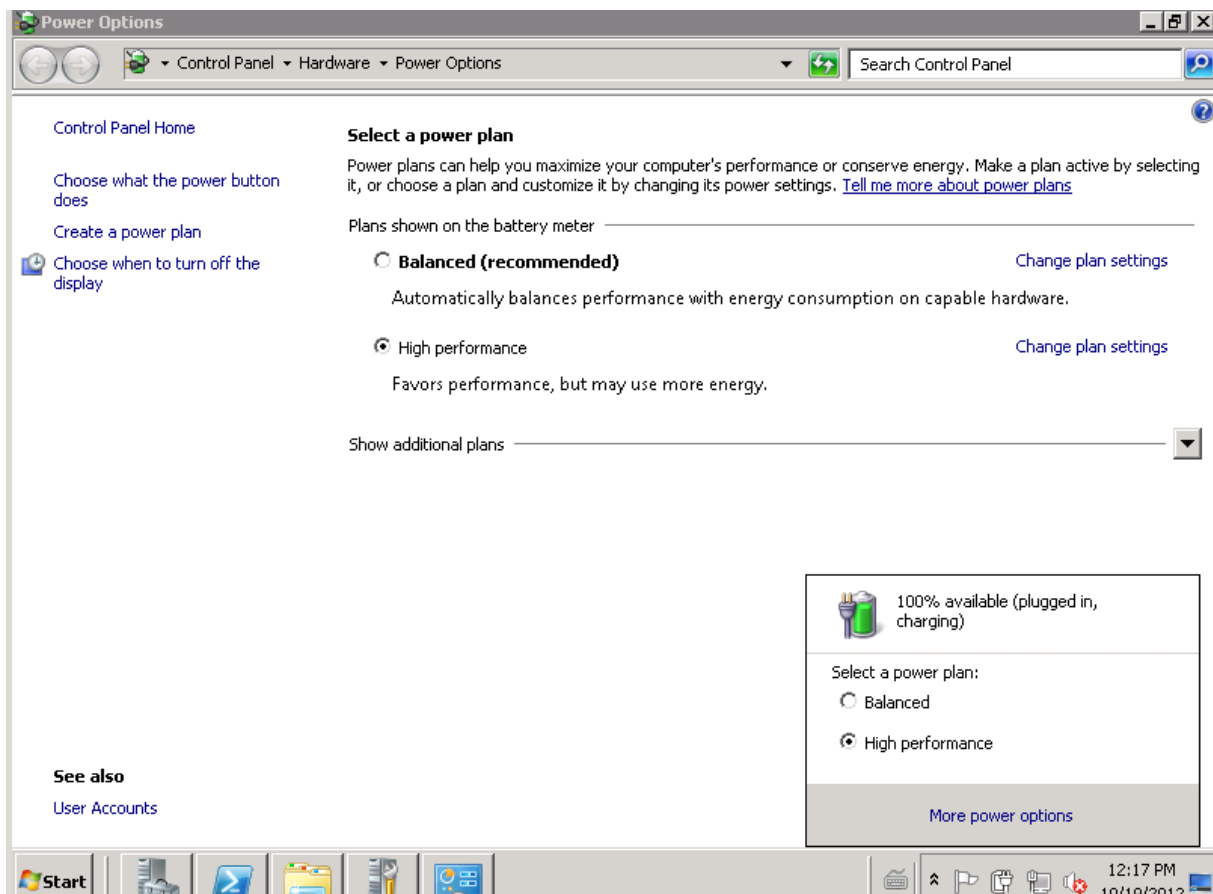
Eaton UPS are supported through the integrated power management.

#### 3.2. PREREQUISITES AND AVAILABILITY

Only USB UPS are supported by default on this device. For more connectivity option (SNMP, RS232...), you can install Windows versions of NUT or IPP on your NAS.

#### 3.3. HOW TO ENABLE UPS PROTECTION

You should go to Integrated power management interface (in the systray) and set the UPS configuration as you need.



For advanced set-up, you can install Windows versions of NUT or IPP on your NAS.

#### 3.4. REFERENCES

Eaton integrated power management documentation:  
[http://pqsoftware.eaton.com/install/win32/psp/vista/UserDocumentationWindowsVistaPowerManagement9\\_EN.pdf](http://pqsoftware.eaton.com/install/win32/psp/vista/UserDocumentationWindowsVistaPowerManagement9_EN.pdf)

## 4. SYNOLOGY

### 4.1. INTRODUCTION

Synology units embed the NUT open source software, which provides support for Eaton UPS. You can configure it via the NAS interface.

This support is limited to Eaton USB HID UPS (see Appendix II). Depending on the NUT version installed on your device, some of those devices might not work.

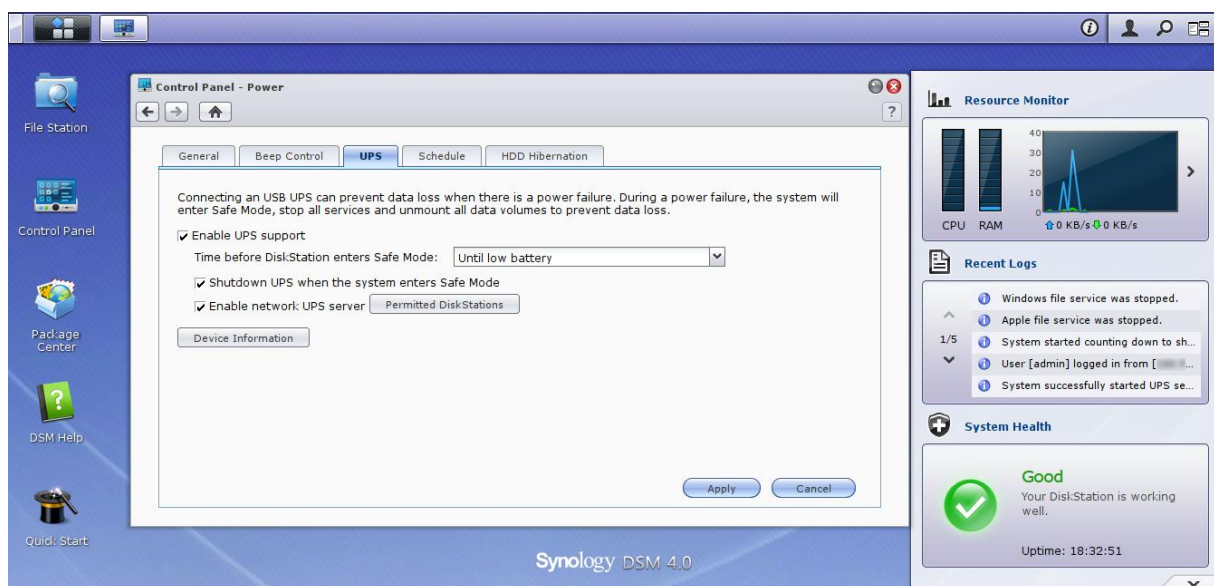
### 4.2. PREREQUISITES AND AVAILABILITY

This tip has been tested with DSM 4.0 firmware. Depending on the firmware version installed, more or less UPS may be supported.

Only USB UPS are supported on this device.

### 4.3. HOW TO ENABLE UPS PROTECTION

Go to the configuration page:



[http://www.synology.com/support/faq\\_show.php?q\\_id=308](http://www.synology.com/support/faq_show.php?q_id=308)

Get Info	
Item	Value
Manufacturer	EATON
Model	Ellipse ECO 650
Status	Connected
Battery Charged	90%
Estimated Battery Time	1771 second(s)

Close

shutdown agent software.

#### 4.4. REFERENCES

Synology officially supported UPS:

[http://www.synology.com/support/faq\\_show.php?q\\_id=300](http://www.synology.com/support/faq_show.php?q_id=300)



## 5. NETGEAR - READYNAS

### 5.1. INTRODUCTION

Netgear ReadyNAS units embed the NUT open source software, which provides support for Eaton UPS. You can configure it via the NAS interface.

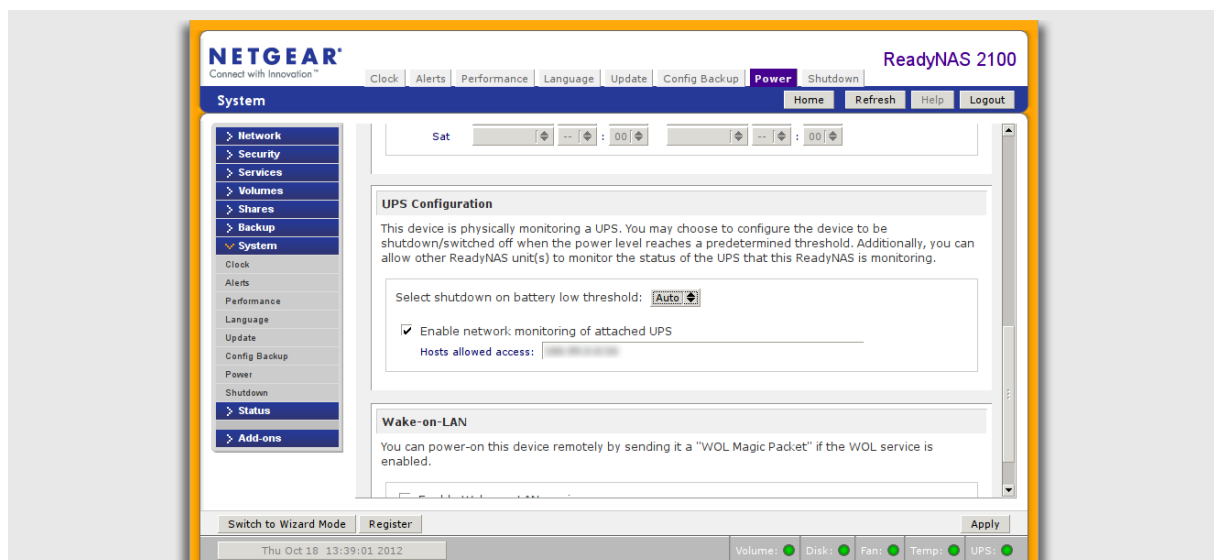
### 5.2. PREREQUISITES AND AVAILABILITY

This tip has been tested with RAIDiator 4.2.19 firmware. Depending on the firmware version installed, more or less UPS may be supported.

Only USB UPS are supported on this device.

### 5.3. HOW TO ENABLE UPS PROTECTION

Your USB HID UPS is automatically detected and monitored. You can set up battery threshold in your NAS web interface in System->Power.



For advanced set-up, please see : <http://www.readynas.com/forum/viewtopic.php?t=16744>

Note: It's not possible to replace the embedded shutdown agent by an Eaton or 3rd party shutdown agent software.

### 5.4. REFERENCES

Netgear officially supported UPS:

[http://www.readynas.com/?page\\_id=92](http://www.readynas.com/?page_id=92)

## 6. QNAP

### 6.1. INTRODUCTION

QNAP NAS units embed the NUT open source software, which provides support for Eaton UPS. You can configure it via the NAS interface.

### 6.2. PREREQUISITES AND AVAILABILITY

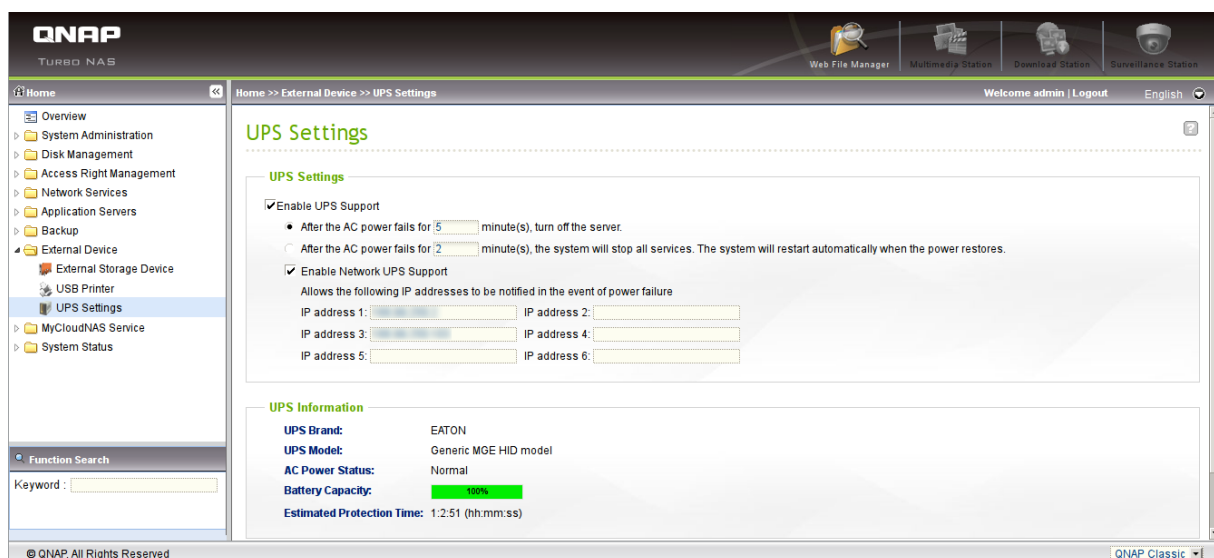
This tip has been tested on firmware version 3.5.2 build 1126T. Depending on the firmware version installed, more or less UPS may be supported.

Only USB UPS are supported on this device.

### 6.3. HOW TO ENABLE UPS PROTECTION

Refer to QNAP official documentation:

[http://docs.qnap.com/nas/en/index.html?ups\\_settings.htm](http://docs.qnap.com/nas/en/index.html?ups_settings.htm)



Note: It's not possible to replace the embedded shutdown agent by an Eaton or 3rd party shutdown agent software.

### 6.4. REFERENCES

QNAP officially supported UPS:

[http://web.qnap.com/pro\\_compatibility\\_ups.asp](http://web.qnap.com/pro_compatibility_ups.asp)

## 7. BUFFALO LINKSTATION AND TERAStation

### 7.1. INTRODUCTION

There is currently no way to use the embedded NUT, nor to activate remote shutdown to protect your Buffalo NAS with your Eaton UPS.

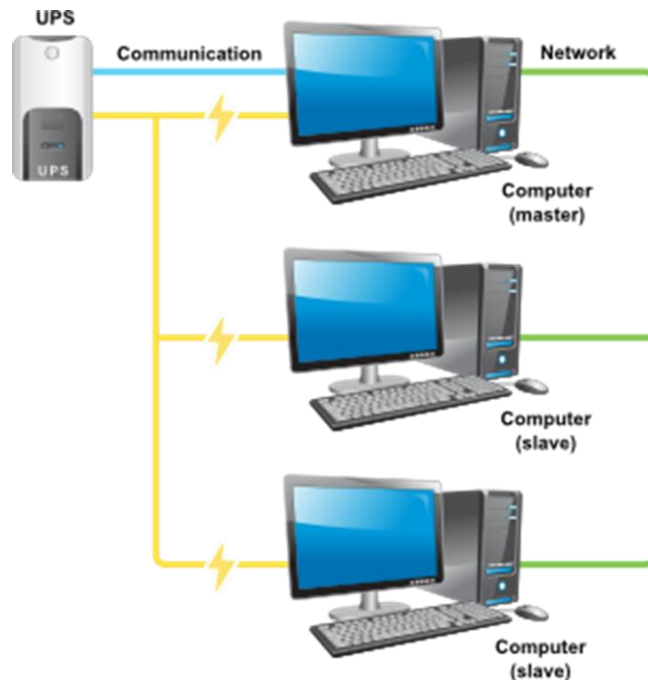
You cannot install IPP on this device.

## 8. APPENDIX I : HOW TO SETUP A REMOTE SHUT-DOWN

### 8.1. HARDWARE CONFIGURATION

If your NAS do not support direct UPS management, you have the option to manage your UPS remotely via another system, which will send the shutdown command to your NAS.

You will have a configuration like this:



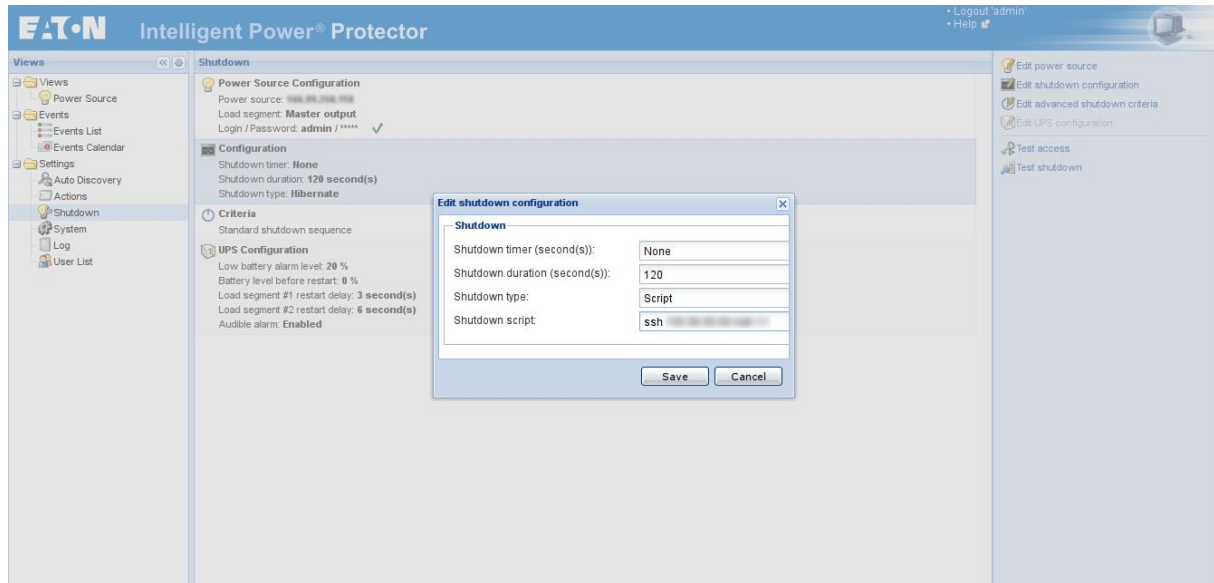
[manual.chunked/ar01s06.html#DataRoom](http://manual.chunked/ar01s06.html#DataRoom) )

Illustration 1: from NUT site ( <http://www.networkupstools.org/docs/user->

A master computer will communicate with your UPS (via USB, SNMP,...). Then you have to set-up your UPS software management (IPP or NUT, see below) running on the master computer to send a shut-down command to the slave(s) NAS when battery is running low (see the corresponding NAS chapter in this documentation to know what is this command and what are the per-requisite to send it to your NAS).

### 8.2. EATON IPP

To execute a shut-down command in IPP, go to Settings->Shutdown, click on "Edit shutdown configuration", click on "Shutdown type" and select "Script". You can now edit the "Shutdown script" field with your shut down commands.



For more information, please refer to IPP official documentation here :  
<http://pqsoftware.eaton.com/explore/eng/ipp/default.htm>

### 8.3. NUT

To execute a shut-down command with NUT, you just have to edit the SHUTDOWNCMD directive in `upsmon.conf` with your command (see <http://www.networkupstools.org/docs/man/upsmon.conf.html>).

For more information, refer to NUT documentation, chapter “Advanced usage and scheduling notes”.

**9. APPENDIX II : EATON USB HID UPS**

Model Name
3S
Protection Station 500/650/800 VA
Ellipse ECO 650/800/1200/1600 VA
Ellipse ASR USBS 600/750/1000/1500 VA
Ellipse MAX USBS 600/850/1100/1500 VA
Evolution 650/850/1150/1550/2000 VA
Evolution S 1250/1750/2500/3000 VA
EX 700/1000/1500 VA
EX 2200/3000/3000 XL VA
EX 1000 RT2U / 1500 RT2U
MX 5/8/10/15/20 kVA
5 PX
Nova AVR 625/1250
Powerware 5130
9 PX